SOIL REMINERALIZATION

A Network Newsletter

VOLUME III, NUMBER 10 SUMMER 1988

"Doing a pot test is the most convincing argument I know of. Anybody can do it. There are testing laboratory grinders everywhere. There is no lag time. In 6 hours you can get a microorganism population explosion. Taking some 6" clay pots, I filled them with a 50-50 mixture of earth and peat and 3 heaped tablespoons of dust. The results were astonishing!"

John Hamaker

This may be a complimentary copy. If you wish to join *Soil Remineralization, A Network Newsletter*, please send $12.00 (within the U.S.), $15.00 (outside the U.S.) for one year (4 issues) to SOIL REMINERALIZATION, Joanna Campe, 152 South Street, Northampton, MA 01060.

Soil Remineralization

A Network Newsletter

The newsletter is a reflection, forum, round table of ideas, experiences and research of those concerned with networking and implementing soil remineralization.

Articles, letters, and photos are welcome and appreciated.It reaches an emerging grass roots community network around the world.

> Microorganisms produce the protoplasm of all living things. Microorganisms themselves feed on the total mixture of minerals and gases in the biosphere and are energized by carbon. We can build enormous per acre tonnages of protoplasm into the soil in a very short time--enough so that sun energy reaching the plant becomes the limit of growth. The foods of microorganisms are the cheapest raw materials on earth.
>
> **John Hamaker**
> ***The Survival of Civilization***

Eden or Ice Age- Which Will We Choose?

The book *The Survival of Civilization* by John Hamaker and Don Weaver is regarded by a growing movement worldwide as a blueprint for the survival of the earth, restoring ecological balance and perhaps, even recreating Eden.

The remineralization of forests, farms, orchards and gardens with glacial gravel and rock dust, is nature's way to regenerate and fertilize soils. During an ice age, as glaciers grind rock to a fine dust over millennia, a fertile soil is created. Adding finely ground gravel dust- is a tremendous boost to organic agriculture and can make it truly viable by adding up to a hundred trace minerals and elements needed by all life and by nourishing the microorganisms in the soil, whose protoplasm is the basis of all living things.

There is evidence to suggest that as forests begin to die off worldwide, giving off carbon dioxide, the climate of the earth is altered, triggering the transition from the warm interglacial - to an ice age. We are hastening this process with the burning of fossil fuels.

Undertaking the task of remineralization is urgent to restore our agricultural soils and to save the dying forests in the temperate latitudes and stabilize our climate.

Soil Remineralization, A Network Newsletter is available for $12.00, or $15.00 outside the U.S., 3-4 issues a year from Joanna Campe, 152 South Street, Northampton, Massachusetts, 01060 U.S.A.

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The Survival of Civilization ($12.00) and ***The Solar or Ice Age? Bulletin*** ($6.00 donation) can be ordered from Hamaker-Weaver Publishers, P.O. Box 1961, Burlingame, CA 94010

On The Cover:

See the story on thirty-five years of research of Fritz Leipold on pages 6-8. These spruce branches are strong, healthy and dark green as a result of remineralization with basalt rock dust near the quarry that produces *Simalith* rock dust.

In This Issue

SR introduces another possibility for a grinder through a proposal of Robert Love in Harmony, Minnesota. A major difference between this grinder and the grinders of John Hamaker and Mark Williams is that it does not work through the principle of rock grinding rock. On the other hand it is a machine which has been manufactured successfully for the purpose for which it was designed, from crushing rubber tires to concrete. Robert Love would like to adapt it to use for grinding gravel dust very fine for remineralization.

We have five pages on the latest update of the **Rocker Box Gravel Grinder** of John Hamaker for those who would like to consider building their own grinder, or for manufacture.

SR is pleased to present a report on the 35 years of research of Fritz Leipold Dipl Ing accompanied with some impressive photos.

The proposal by the Research Group GHK/HLT at the request of the Hessean Minister for Economics and Technology, advocating remineralization, reveals how seriously soil remineralization is being considered by government and the forestry industry in Germany.

Packets of research material are being prepared for *SR* readers, and should be particularly useful for those who are doing research and networking in scientific, educational, public policy areas. The cost is likely to be about $8.00 postpaid.

Mechanized versus non-mechanized approaches to soil remineralization

As indicated in previous issues *SR* aims to be a forum and bulletin board for the network. Acknowledging the unity of purpose and the creativity and diversity that exists it is worth noting that some people in the network seem to be moving in the direction towards "non-mechanized" methods for implementing remineralization and regeneration of forests and soils.

Most notable is the recent work of Dr. Maria Felsenreich and Dr. Gernot Graefe who continue to emphasize the importance of remineralization and the use of biovin, a humus complex developed by Dr. Graefe, and are now also utilizing techniques such as dowsing and homeopathy to achieve this goal.

Just as I was considering how to introduce this new direction to readers, I came across an article in *The New York Times* on an article published by the prestigious scientific journal *Nature*. "Today's issue of *Nature* has a report by a consortium of French, Italian, Israeli and Canadian biologists that a reaction occurs between two biological substances even when one has been diluted by so much water that none of the substance is left to react."

It has turned out that two of the collaborators are practitioners of homeopathy. "That was how it all started," said Dr. Benveniste. "They challenged classical scientists like ourselves to prove them, wrong, and we couldn't." A board of scientifically qualified critics has been unable to find any research flaws and so *Nature* has printed the results.

The letter of Keith Johnson also reflects a change in direction. *SR* invites the inspiration, scrutiny and other responses that may come forth from readers. Methods of outside verification are encouraged.

Both Dr. Felsenreich, and Dr. Graefe as well as Keith Johnson, continue to advocate remineralization. At this point, *SR* would like to encourage "down to earth" remineralization- grinding and applying gravel and rock dust. But just as there are differences in the way gravel and rock dust is applied in Europe versus the U.S., and it is important to make clear those distinctions- here again distinctions are being "opened up" to the network in the newsletter.

If I were editor of a magazine to which I were giving shape and form, to reach a particular "market"- there might be some hesitation in introducing these ideas here! For a newsletter which is a reflection of its subscribers, these issues seem appropriate and worthy of serious inquiry.

J.C.

Spreading the message far and wide

LIVE EARTH , A Broadcast For Our Common Future will be taking place now in Los Angeles at Irvine Meadows and is scheduled for July 23, 1988. "**Live Earth** will fund specific, and highly effective environmental action programs to remineralize and reforest soils, clean up the seas and subsoils, find substitutes for agricultural and industrial ecologically noxious chemicals and technologies and set aside "genetic conservation areas" and natural reservations." The Carpentiers de Gourdon. For more information write: **Live Earth**, 830 20th Street #103, Boulder, CO 80302. Telephone (303) 447-2754.

Of all the concerts taking place worldwide as part of the broadcast, the one in Fife, Scotland seems to be the largest planned with the participation of David Bowie, Ringo Starr, George Harrison and many other top groups.

As reported in the previous issue, Shoshame, is distributing free through **Transformational Research**, Inc., 227 Oxford St., Dept. SP-L, Hartford, CT 06105, (203) 232-2961, a resource list on climate and SR and other pertinent issues. Please distribute and reproduce freely. But do send a *large size* Self Addressed Stamped Envelope.

Mike Kolodny and Laura Pierce have a table on soil remineralization at the the National Organic Farming Association Conference in Williamstown, Massachusetts July 8-10. The conference is called **Bringing Back The Earth** and Helen Nearing is the keynote speaker.

New Alchemy in Austria

by Maria Felsenreich

I had never been especially interested in stones. I loved the sight of rocks piled up in beautiful structures or set in whirling waters of mountain streams. I was a sightseeing tourist in nature because nobody had taught me Gaia's delicate ways of feeding organic life with the material that forms her bone-structure: ROCKS.

My first conscious encounter with fine stone dust dates from the summer of 1980 when I was looking for a method to adapt our little goats shed to sanitary principles. "Urgesteinsmehl" (rocks from geological layers that were once nearest the fiery heart of the earth) seemed to take away the smell of dung and to turn it into precious humus. The information didn't go further than to my hand sprinkling the dust on the straw: I was still lacking an understanding of the mineral world and its importance for building and holding up the circle of life which had begun with water touching on naked rock which, by the sun and the wind and the cold had cracked and crumbled and fallen apart into very fine dust particles.

Evidently I had to go the hard way getting prepared for the message of the stones. It was in February 1985, on the chilliest day of the year, that I read John D. Hamaker's book *The Survival of Civilization.* A few days before I had experienced the shock of my life: Waldsterben had hit my little one hectare (2 1/2 acres) pine forest. The trees had been broken by heavy snow as though they were matches and I had to face their cry for immediate help.

Reading Hamaker everything seemed to fall into place: the fierce winds and droughts we had experienced these last years, a tendency to quick changes from heat to cold and shifting seasons which gave you a feeling of drifting sand because nobody could tell anymore what to plant when, because the weather would be unpredictable. People who neither lived in the country nor had to care for a garden and make a living of it, evidently didn't realize what was going on. Reading Hamaker I suddenly knew.

After the first shock I thoroughly indulged in Hamaker's way of talking about nature's invisible elite-troops, the microorganisms. Hamaker's teachings came from his heart and hand and from a fiery spirit whose message left no doubt that it was now or never to understand: fighting pollution should be supplemented by remineralizing soils and doing so we should be able to make use of rocks, the basic material for the build-up of eco-systems. They would supply exactly what nature needed to recover and guarantee longevity for farmlands and forests.

Being responsible for about a 1000 trees I decided that Hamaker's teachings should become part of a program to stop the ongoing Waldsterben. My decision to retire more or less from intensive gardening and to throw my energy into a campaign almost caused me to collapse economically. On the other hand- and this seems to be the laws of ecological accounting in the transition period- studying alternative natural science furnished me with a concise concept of what I used to call "Okologische Wertschopfung" which means creating ecologically sound values.

The best example was the compost heap: by recycling we build up fertility, balance, diversity, complexity. As finely ground rock dust furthers the humification process in a compost heap, supplying the necessary minerals, it helps humify the layers of needles and leaves in forests which, under heavy stress of acid rain and radiation-stress of all kinds (radar, satellites, powerlines, etc.) cannot give shelter anymore to the rich life of micro- and macroorganisms, which are part of the soil's energy system, its electromagnetic qualities, its "aura" without which farmlands and forests lie open to radiation (and other pollution). Composting or humus policy therefore is the only strategy left to fight the industrial system's chaos which strongly reminds us of the beginning of life on this earth when step by step devices were developed to buffer radiation. So if there are still lots of specialists who claim that applying rock dust seems a step down in the development of agricultural and forestry know how, we feel that this "new alchemy" gives us a chance to finally understand and copy creation. Copying nature is the best exercise to forget our high-flying ideas, especially the input-output ideology of the fertilizing industry. It is the most worthwhile, most economic and most obvious thing we can do in our situation.

We all know well enough what it means to convey such thoughts to the authorities. Tell them that "Heilerde" (literally healing earth, clay) in practically all ancient cultures had been used for remineralization. Tell them that big rivers like the Nile have supplied soils with minerals and organic substance for building up the colloidal system which is responsible for holding water, withstanding drought and wind, giving a firm hold to plants. Tell them about the elephants which march down into caves of a mountain in Kenya to eat stones, balancing their mineral shortage caused by the poor food from the rain forest. Tell them about the Hunzas who drink water coming down from the glaciers, keeping their health on an astonishingly high level. Tell them that Switzerland's pastures were fertilized by mountain streams before chemistry came in. Tell them all the stories you know and they will say:

"Give me scientific proof. Papers. Abstracts. Who are the experts? Where are the long term test trials? Who guarantees?" And although nobody ever cares to guarantee safety for atomic plants it seems that working with nature is considered a highly dangerous, risky enterprise. Which is, of course, only true from the view of the society we live in: Whoever supports nature, automatically gets under pressure from the lobbies, the economic as well as the scientific, which is about the same thing. On the other hand nature pays back in a way that surpasses our imagination, leading us through the maze of our wrongdoings and deficient perceptions into a new kind of reality, where conventional science and alternative methods, quantifying and qualifying energies, ratio and intuition may cooperate in peace and the ecosystem's regulating force starts to work again: in the soil, in plants, in animals, in homo sapiens sapiens who up to now has earned the name homo destructor.

A subtle perception of nature and doing the right things normally come from sound education, sound food and from the absence of too much stress. We do

not live in normal times. Nowadays it is great physical, mental and economic pain that bring forth transitions: an irritation so unbearable, a pressure so extreme that the very energies of homo sapiens sapiens are set free. Re-structuring the eco-system needs the courage of decision and the gift of healing love. As for the Austrian scene which is small enough to apply Schumacher's concepts, we may hope for the rapid growing of a group of forest and farmland owners, mostly from aristocratic descent, who seem highly motivated to learn about nature and to work with her. The grassroot movement is now reaching the beautiful castles where the memory, the echo and the reality of sound education, sound food and the absence of stress still lingers. The experts' world of soil-and-forest-science which has been supervising and dominating thousands of hectares during the last decades is slowly loosening its grip.

The Austrian remineralization program, based on Hamaker's book *The Survival of Civilization,* started in February 1985. Dr. Gernot Graefe, being a humus specialist and an ecologist of great flexibility, quickly identified remineralization as the missing link in soil research (see his article *Colloidal Links in the Soil, SR* Newsletter Fall, 1987). With the help of the efficiently working organization "Bruder Baum" (Brother Tree), first aid programs for dying forests were undertaken. Local people as green groups, school children and forest owners started out to apply rock dust mixtures (e.g. diabas, dolomite, Schindele's material) in forests and on skiing slopes where the soil begins to slide. Each mixture was enriched by the organic fertilizer *Biovin* (a recycling product from grapes remains) to secure a rapid recovery of the self regulating system in the soil. Up to now about 80 hectares have been treated and are closely watched for:

* build-up of the colloidal system and its micro- and macroorganisms.
* development of the mychorrhiza.
* energy potential (vitality, "aura") of soil and trees.
* color and smell of soil and trees.
* quality of growth (chaotic/orderly).
* weathering of natural rock in the soil.
* reaction of the biotope to stress (electro-stress, radioactivity, poisonous immissions and their interactions).

The mass of information we gained from these test areas and especially from working with liquid extractions of *Biovin* which also has been diluted homeopathically up to D 1000 weighs heavy on us: publication will be undertaken as quickly as possible and seminars will be held for interested groups. The following statements may, in the meantime, serve as guiding lines on our way to better understanding of the interaction of rock dust and organic material in their fight against over-fertilization, pollution and exploitation.

1. The efficiency of rock dust and/or humified organic substances results from their special electro-magnetic qualities. Their capacities as nutrients play a much smaller part than is normally understood.

2. Rock dust and humified organic substances are part of soil-evolution. Rock dust is the "father", organic substance the "mother" of humus. One without the other seems to be easily destabilized (e.g. rock dust being dangerously polluted by radioactivity, humus-molecules without adequate mineral support breaking up and crumbling away under electrostress).

3. Rock dust from special materials (e.g. Schindele's or mixtures) may show a special ability to cope with radioactivity, while organic substances in totally humified form seem to buffer electrostress preferably. Depending on circumstances and on the form in which they are applied, they may take away any stress whatsoever.

4. Certain kinds of rock dust such as dolomite and other limestones may become dangerous under electro-stress when applied without other dusts and/or humified substances.

5. Depending on how finely ground particles of rock dust are, they may show different qualities (experiments with basalt). The same goes for the different dilutions of liquid extractions from humified organic substances.

6. Different kinds of rocks differently ground show different abilities to cope with geo-pathogenic disturbances. The same goes for the different dilutions of liquid extractions from humified organic substance. In a balanced natural system they all cooperate in a self-regulating way, each fraction/dilution being a specialist as well as a well informed organizing unity.

7. Mixing different kinds of rock dust for long term biotope security indicate individual research should be done preferably. If this is not possible under prevailing circumstances materials such as diabas will- hopefully- give the soil enough impetus to strengthen its regulating functions.

8. Organic substances in humified form are reliable carrier agencies for rock dust particles which tend to show an easily changing electro-magnetic behavior, which may become extremely irritating and confusing for the researcher. The relationship between rock dust particles and humus substances once established, will be stable and dynamic at the same time. Depending on the circumstances more weight should be laid on one or the other.

9. Combined application of rock dust and humified organic substance in biotopes (also in animals and the human body) seems to build up deteriorated "auras" which could be defined as part of the larger electromagnetic field. This build-up may also be achieved by feeding humus-substances (basic or dilutions) into oceans, rivers, lakes, drinking waters etc. Measurements in Vienna show that the aura has risen from about one meter to the full height of the St. Stephen's cathedral tower in the course of a few months.

10. By heightening the electromagnetic qualities of water which is to be found everywhere, especially in the soil, geopathogenic disturbances start to vanish, self cleaning capacities of the water are set free and blockages are broken up. Weather control may be exercised from a thorough understanding.

We have gained our information from sharpening our perception, using the valuable accumulated knowledge of the natural sciences, collecting experiences from forest owners and farmers, alternative scientists and practitioners, relying on conventional measuring devices only to a certain extent (e.g. radioactivity) and finding in pendulums of different material the most subtle, efficient and reliable partner as long as they were used in a strictly empiric way. Our quest was not to find nature's secrets. We asked what she needed and the answers came logically.

Hamaker, after all, found the clue. We took up his challenge, and we are opening up new worlds of experience every day. Things being as they are in this world, we are shocked every morning hearing the news. But we can also see Gaia's healing force right in our hands. Thank you Mr. Hamaker and all the good people who are following up!

Fritz Leipold

Thirty five Years of Experience and Research with Remineralization

Fritz Leipold Dipl Ing has over 35 years experience with the application of basalt rock dust, especially in fruit, orchards and vegetable gardens since 1950. He is a retired garden landscape consultant and has great experience in education and teaching as well as remarkable documentation. He is working on a book and is available for seminars.

He was head of the Department for Tree Nurseries and Landscaping at the research, training institute and now technical college in Weihenstephan, West Germany and has been a teacher and advisor for the total vegetable, fruit and horticulture in the area of Siegkreises since 1948.

At the very beginning of his work, Fritz Leipold proposed a 2.5 hectare (a hectare= 2 1/2 acres) test area in Hangelar on the Niederberg. It was to be a place of experimentation and instruction for the new generation and for farmers. Within 2 years they succeeded in this undertaking with several subsidies from different organizations.

It was a very controversial project. The soil was bad, mainly sandy and with a lot of gravel. It was mainly a birch and beech planting region. The area had been deforested after the war by the inhabitants of the region. Some people predicted total failure of the project.

The use of basalt rock dust from the Huhnerberg- today known under the trademark *Simalith*- played a very special role.

In 1949, right after the end of deforestation and the first soil treatment, he made a soil sample. An average of 11 samples showed the following results:

Ph= 4.8
P2 05= 3.2 mg in 100 gm soil
K 20= 8.2 mg in 100 g soil

A former 1/4 hectare size spruce area represented a special case. It was a typical humus soil with a Ph of 3.7. It showed no growth of plants that normally grow on agricultural land such as pioneer plants or weeds. After 20mm of rainfall, only the top mm of soil were moist, a moistening factor equalling zero.

From 1949 on a first application of basalt rock dust of 3 tons per hectare was applied. In the following years 1.5 tons per hectare were applied. In 1952 a second analysis of the soil was done with the following result for the 11 samples taken:

pH= 5.4
P205= 3.7 mg
K20= 9.8 mg

A denuded forest transformed into a fertile orchard

In 1950 on this area, an orchard of apple trees, mostly of the Cox-Orange Rennet species, was planted. From 1952 onward, volunteer plants such as knotgrass began to grow. From 1955 on grasses were growing there without having been seeded.

It was a very successful transformation of the raw soil into "mild humus" through the application of basalt rock dust.

Leipold writes that with these results it is possible to see the proof of the statement of the English agriculture scientist Sir Albert Howard. In his book ***My Agricultural Testament,*** after having visited the Hunzas in the Karakorma mountains of the Himalayas, Howard writes:

"Will, through the yearly supply of finely distributed elements, an advantage be transmitted to the soil and the plants? We don't know the composition of this loess. If it is finely distributed limestone, then its value is apparent. If for the greatest part it consists of crushed silicates then, its potential significance must still be researched. Do the mineral sediments in the soil need to be regenerated like humus? If so, then nature has given us a complete demonstration area with results that cannot be ignored."

Leipold comments that this was written in 1939,a statement far ahead of its time. For Leipold the decisive statement is the sentence:*"Do mineral sediments in the soil need regeneration, like humus?"*

Leipold answers yes, for our cultivated soils like our forest soils are impoverished of very fine minerals. He writes that basalt rock dust is a clay-mineral of a crystalline structure. Minerals define in many ways the qualities of the soil and are thereby important factors for the production potential of the soil. Because of the tiny size of the grains and their structure these clay minerals have specific surfaces, depending on the grid structure of the minerals. Ions, i.e. cations- can be attracted selectively through the ion exchange. Also the propensity to absorb water can be extraordinarily high, again depending on the mineral structure. These propensities of clay minerals create:

a) the storage capacity of the soil for water and plant nutrients
b) the ion-exchange
c) the attachment of nutrients

These qualities are the basis for cultivation and stabilization of the soil structure. Dependent on them are: The moistness and aeration, erosion and conditions for cultivation. With a yearly application of basalt rock dust the soils become enriched with the minerals in the process of their weathering. In forestry and in extensive cultivation of soils, the plants depend on such a mobilization of nutrients, and this can be applied in its natural form.

Leipold has many photographs* revealing the dramatic results he has gotten since 1948 using the basalt rock dust *Simalith.*

In one photo he shows the condition of the Niederberg plot prior to the deforestation in 1948 and one can see the still untreated soil. Another photo shows how the soil became alive with different grasses and weeds as well as healthy pear and peach trees.

** Though I have seen the photographs, I have mainly photocopies which cannot be reproduced here. J.C.*

Basalt dust kept the Schor Infection from penetrating the leaf surface of apple trees

He also has photos which show that the apple trees of the Cox- Orange -Renette species on the former deforested area are extremely healthy. The imbalance of the soil life in the area was very great. The soil fungus Phyphotora-Cactorum was nearly without predator. Similar conditions caused by a completely anti-natural soil treatment led in the 1950's in fruit orchards at the Lower Rhine region to a great loss of trees through this soil fungus. Here no tree was attacked. The silicatification of the leaf surface did not allow for the Schor-infection.

Another photo shows the artificial application and treatment of the infection (the size of pinheads). In this test the spurs used up all their germinating power but *were not able to intrude into the leaf* and one could see the tiny spots still in September of that year.

Remineralizing strawberries

Other photos show a multi-annual strawberry culture-mowing method.

After the harvest the weeds were growing in. Then the whole area was mowed with a mulching instrument. After the strawberries came through again they were roto-tilled to a width of between 8-10 cm (3-4 inches). The former weed growth protects as dead mulch and lies on top supplying the organic elements.

Before the mowing 15 kg/ar (1/100 hectare) *Simalith* was applied. In the spring- until blossoming- *Simalith* was blown on every ten days. No fighting of fungus diseases like botrytis was necessary. Firm, ripe fruits that keep their firmness and shiny surface after harvesting was the natural result.

From tomatoes to fruit trees and to grains

The photo reproduced here on the right shows tomato plants after the harvest. The ones with *Simalith* are by far ahead of those just fed with fertilizer.

Other photos show the superb root development of a young fruit tree in the first year after planting. The high amount of fine roots is striking, and can be traced back mainly to the application of *Simalith.*

Note the difference in the larger remineralized tomato plants. Especially impressive is the massive root system of the remineralized tomato in the lower photograph.

Photos also show the cultivation of grain. The first application of Simalith was done in 1980 without plowing it in. The application has been regularly repeated in the amount of 1.5 tons/ha. The pictures show clearly that after three years these fine minerals have penetrated down to a depth of 55-6- cm (22-24 inches). Additional fertilization was not done on the areas treated with *Simalith.*

An exception to this is in winter when there is frost, decomposed manure is applied extremely thin. Then it can be seen that, if *Simalith* is not plowed in deeply the first time (at least a foot), the integration of minerals into the soil occurs only in the third year. Also here, the roots followed the minerals down into a depth of 60 cm (2 ft) and this already at the end of April. Additionally *Simalith* was sprayed three more times before the sprouting of the wheat at 750 g *Simalith* to 100 liters and 6-8-- l/ha (liters per hectare). A spraying to shorten the stalk was not applied. The same is true for rye, which gets to a height of 1.80 m (6ft) Leipold observed, "Why is that so? Our grains are luxury consumers of silica. The stalks are strengthened, the stand is optimal and the deep roots guarantee this stand. A further indication is the good, even development of the kernels in the grain and a smaller amount of water content of the harvested material on the average of 1-2%. The hectoliter (100 liter) weight is higher, also."

Results in a Spruce Forest

The slope beside the basalt quarry Huhnerberg was created during the years 1952-1965. The material consists of the layers that were situated above the basalt and could not be used for production. Up to 1-6 m depth were taken out; it also contained soil and clay.

The planting of the hill with spruces started in 1972. The forester of the region was very skeptical. He didn't give the young trees much of a chance. Delivery and planting was done by the tree nursery. There has not been any tending since then.

Since the days of the planting Leipold continually observed their development. When Waldsterben became more and more serious, these spruces did not show any signs of distorted growth. On the contrary, they are healthy, thick with needles, the needles strong and very firm. A stock of trees, about the same age, which he has also observed since then simultaneously showed a much worse picture. This significant difference warranted an investigation. So in the summer of 1983, soil samples, plus samples of the twigs from the spruces were taken from both areas and scientifically examined.

The top photo is of spruce leaves taken from the dust blown versus the lower photo, from spruce trees of range of the wind blown rock dust.

For each area 20 soil samples were taken up to 30 cm deep and mixed. The analysis was done by Lufa-Bonn. Also branches from both forests were taken for an ash analysis for the elements: Nitrogen, Ph, Kalium, Calcium, Magnesium, Silicium.

The high content of magnesium with 45 mg/100 g of soil is to Leipold once more, proof that the basalt rock dust *Simalith,* which regulates 300 enzymes, plays an especially important role in the life of plants and soils. As a central element of chlorophyll and therefore for photosynthesis it is the decisive element. *Simalith* contains 13.5% MgO. That the needles are so much stronger and sharper is due to the element silica. It gives the needles a solid structure and tight surface. A parallel effect of silica in deciduous woods is the strengthening of the cuticula and the surface skin of the leaves. Beside that silica is absolutely essential for the building of cells, can

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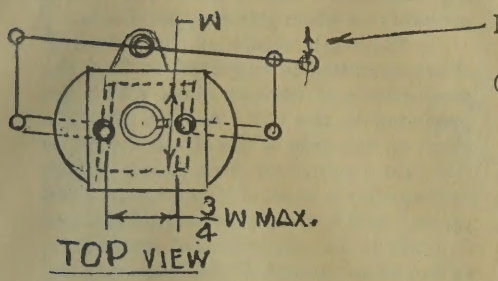
UPDATE ON

The Rocker Box Gravel Grinder

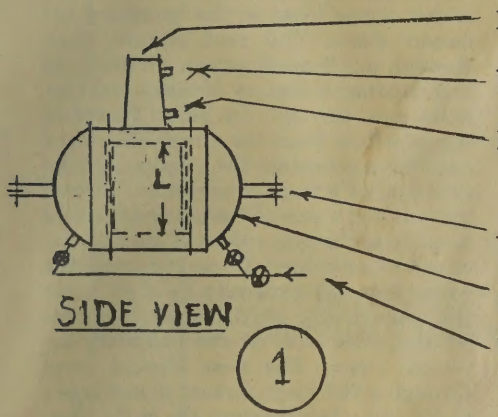
by John Hamaker

Probable Best Conception
of Rocker Box



Reciprocation power

Grinding chamber Vol = W x 3/4W x L*



Feed (tapered for restricting gravel backflow)

Water-suspendable dust

Dust with some silt

Actuating lever (2)

Boot (2)

Water at pump pressure, pressure control valve, and two check valves

In an effort to help those who can and will develop a gravel grinder I am adding some suggestive details and discussion to the previously published schematic drawing of the preferred form of rock box grinder. See Fig. 1.

* If the distance between plates is equal to the width of a plate, the gravel may move parallel to the axis of the box or at right angles to the axis. If it moves at right angles, a semi-oval zone in front of each plate will be ground while the gravel at the center of the box will be compacted and will shut down the operation. I use 3/4W as a "safe" figure. It may be a bit higher.

Description

Figures 1 and 2 show the way I see the boot compartment. The boot may consist of a standard tire carcass with a thin layer of rubber on both sides of the fabric. The boot mounting plates must be removable to slide back on the actuating lever to provide access to the adjustable wear plate. I would want a boot with a working pressure of about 40 lb per sq inch.

The wear plates would be case hardened on the wear surfaces and would be ground. The flat top and bottom plates would be bored slightly oversize for the shaft. There would be a boss to contain the water seal, just inside the box wall. Leakage should go outside of the box, and if a packing box is used, the adjustment must be outside the box. The bearing blocks would be mounted on the outside of the box and doweled in place with removable taper pins. The shaft would be held rigidly to the rocker plate by a split bore clamp next to the top and bottom wear plates.

I anticipate that the adjustable wear plates will be shimmed to no more than a few thousandths of an inch to pass sufficient water to carry the dust from the machine. It is therefore important that the shaft be large enough to hold shaft deflection to a minimum. Bearing fit should be tight and the bearing designed for indefinite life. There will be five or six inches of overhung shaft from clamp to bearing and some deflection is inevitable. A three clamp arrangement with he spherical roller bearings would seem to be the best way to hold the shaft firmly as possible.

The grid plate will trap inert stone in the pockets and protect against all wear except on the edges. A strip of tungsten or titanium carbide brazed to the edge would assure very long life to the edge.

Figure 3 shows what may be desirable features to incorporate in the feed chute. The chute should be replaceable and also removable for any desired changes in the development machine. The overhung flanges would discourage any reverse flow in the chute by enhancing the bridging effect. I would put a pipe down close to the grinding chamber (the zone defined by the rocker plate area) in case it proves desirable to pull silt and very fine sand from that area. I think the chute should be wider transverse to the machine axis and shorter parallel to the axis. The chute will need a small hopper on top to catch the fed from a conveyor, and it probably should be set at an angle to bring the hopper away from the grinder on the side opposite to the drive.

Discussion

A typical installation would be one in which the owner would want enough output to take care of his own needs and sell enough dust to his neighbors to pay off the investment. I have only a few acres to mineralized but I would want a machine big enough to have a good efficiency, i.e., to operate at a fairly high unit pressure on the rocker plates. I think the machine would have three feet square rocker plates and a depth of two and on quarter feet between plates. My not too well educated guess is that such a machine would develop not more than twenty psi. I would consider the load to be uniform over half the plate area because the stones are in motion which will equalize the pressure in all directions as if it were hydraulic pressure. The rocker box can be built to the assumed pressure. The torque required would be approximately 12,000# acting at nine inches. When the prototype is completed, the true torque must be measured possibly by running the machine with tow synchronized cylinders and finding out what hydraulic gauge pressure it takes to operate it. The exact figure is 1 lb/sq. in. on the plate can be found form the torque. It is probable that the pressure required for a larger or smaller machine directly proportional to the distances between plates.

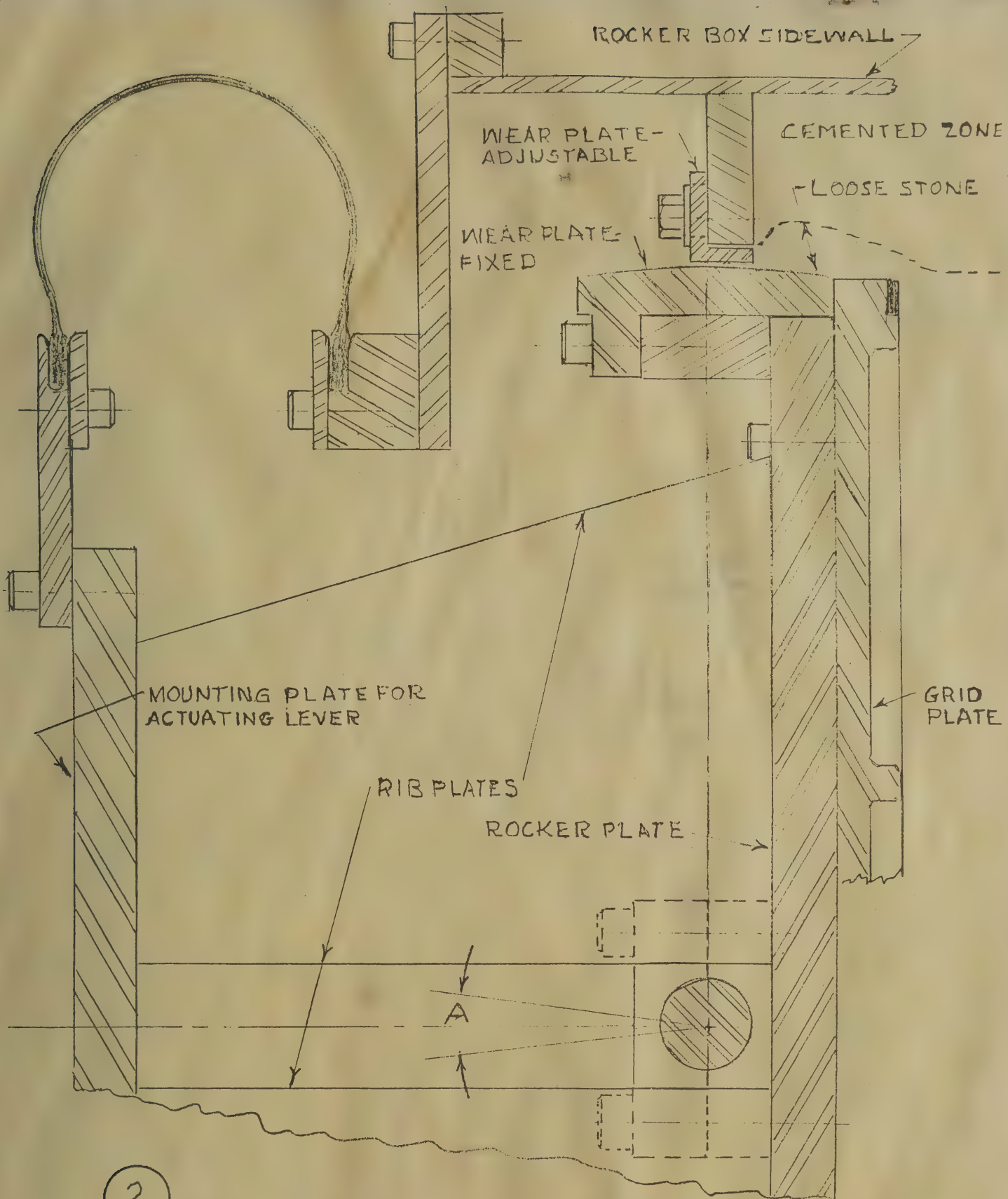
Note that 20 psi is a low pressure but that the contact area between the moving stones is very small. The pressure at the points of contact range from theoretically infinite to a high abrasion pressure. The sum of all those pressures times the distance through which they move is equal to the work done by moving a sq. in. of plate through the distance it moves times 20 lbs. The internal work done on the stones and sand is what builds up the pressure on the plates. Obviously you can not design a machine until you have a correct figure for the pressure on the plate. If I have not missed my guess too far on plate pressure and a reasonable factor of safety has been used, the prototype should give all the information needed to design for production.

To start operation I would set the wear plate gap at .002" and the pressure ocntrol valve at 30 psi. With the chute removed I would visually check to see that there is an even spray around both plates. Then with the chute replaced I would see what the flow is. If it is about that which will overflow through a 3/8" pipe, it should be about right for processing about one ton of gravel. If an .0002" gap does not give a reasonable flow, the pressure in the boot ends can be changed to 30 psi + or - 10 psi. If that does not do the job, the gap must be readjusted. The box must be drained to readjust. I would put two screened drains in the box to drain from the loose stone zone and one in each boot compartment.

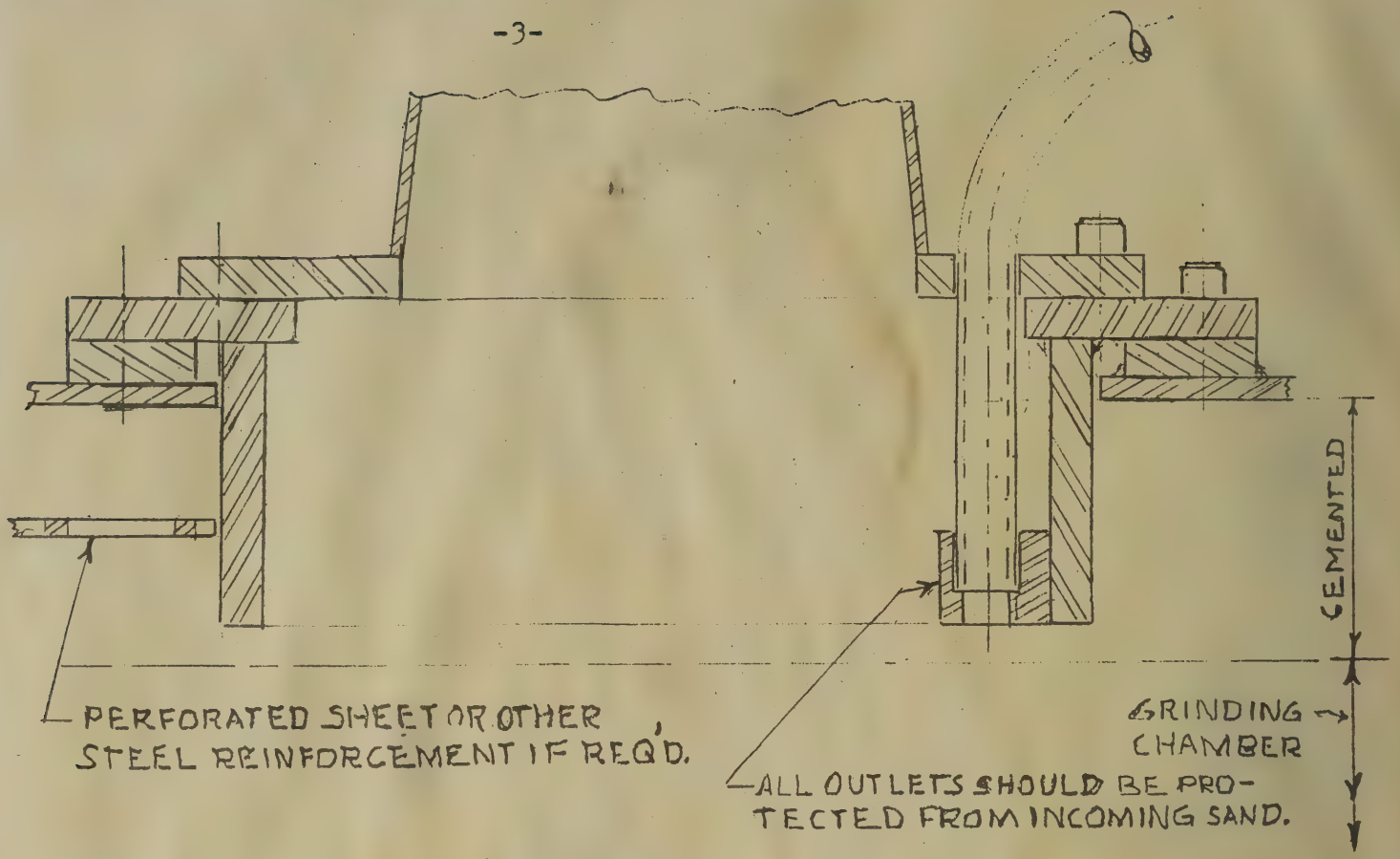
At this point the grinder is ready for testing. The controlled pressure in the boot should interlock with the grinder motor so that the latter will not start or run without pressure in the boot. With water flowing through the gap all sand size particles will be forced to move through the voids in the gravel so the gravel can not be cemented up. The fine particles will move toward the chamber where the motion is constantly opening up the voids and allow the water to carry the sand and dust toward the chute exit. What is left behind is loose gravel in all sizes but too large to wedge in the gap and cause destructive erosion. As the plate withdraws form the box the pressure on the plate is zero which means that gravel can not be forced into the loose stone zone. As the plate moves into the box it does so under maximum pressure and the carbide-tipped grid plate pushes gravel ahead of it tending to clear any obstruction in the path of the ear plates. In other words, it is a pumping action which tends to move gravel out of the loose stone zone thus preventing a build-up of pressure in the loose stone zone. Without pressure no more than a polishing action can take place on the case-hardened cylindrical wear plate. There will be nothing in the boot water to cause wear of the gap surfaces.

The water will move the sands toward the chute and on the way most of it will be crushed between the gravel to very much smaller particles. It is possible that the total output will be an acceptable mix of ground gravel. Consider the fact that with sand and gravel in a water saturated condition you have the equivalent of quick sand. The heavy particles will sink through the lighter particles so that a layered condition is produced with the particle sizes ranging from the smallest on top and the largest at the bottom with water suspendable clay size particles in the one water on top. When the small hopper on top of the chute is periodically filled by an automatically controlled conveyor, the gravel will sink to the bottom of the chute until there is gravel to gravel contact all the way up the chute and into the hopper. This will displace the smaller particles upward as well as the water level. The water with its clay size load of suspended particles will surge upwards. The silt layer will also rise. To avoid getting silt or larger sizes in the discharge from the top outlet, it must be high enough so nothing but he water comes through it in spite of the loading surges. The next outlet below it must take silt size only so must be above the bottom of the silt layer at all times. Instead of periodic conveyor feeding it would probably be better to use an automatically controlled variable speed drive or to overflow a small amount of feed form the hopper back into the pit. It would greatly simplify control of the desired mix of particle sizes. On the other hand the grinding of sand between the larger particles may be so efficient that none of the silt rises up into the chute and the outlet for taking off silt must be down close to the grinding chamber. The worst case would probably be when grinding sand only.

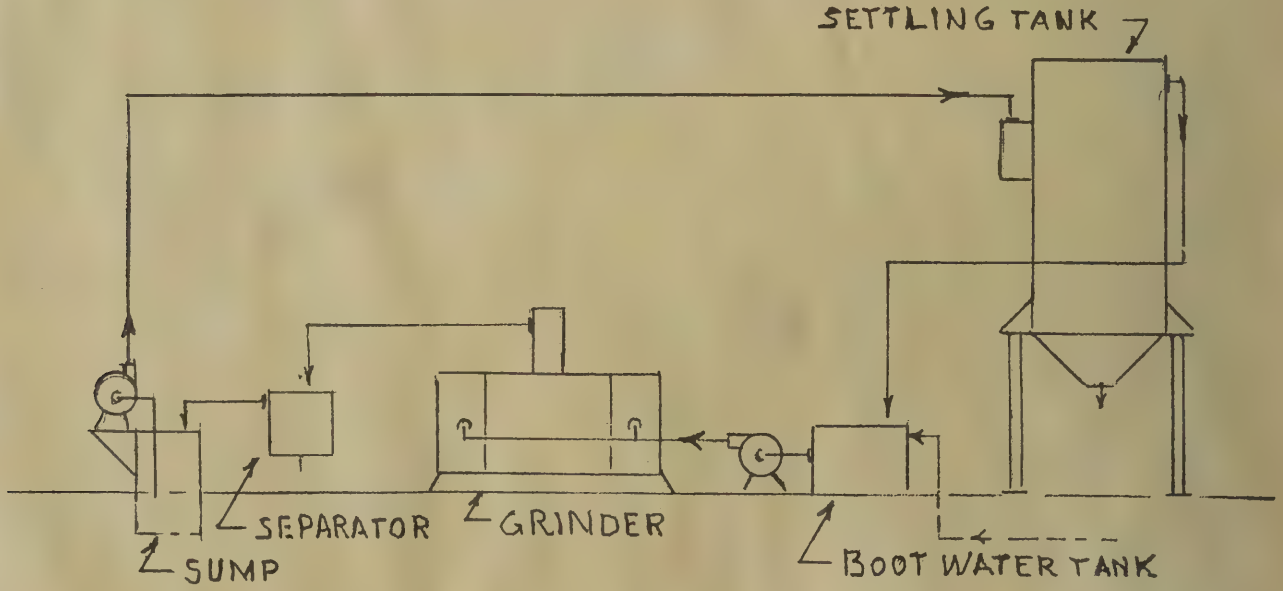
A thorough study of the grinding characteristics is required to find the proportions of various sizes which are produced in the box. A strip of sight glass on one side of the chute should be run into a container for a couple of feed cycles (after a week of operation), stirred up well and a sample taken and allowed to settle so the proportions of particle sizes can be estimated. If you evaporate the water you will generally be able to get the suspendable particles out in a cake which comes loose at the boundary between sizes. The rest should pass through a 200 mesh screen. In any case it is imperative that no abrasive size particles pass through the gaps. Therefore the overflow from the chute should be run into a container for a couple of feed cycles (after a week of operation), stirred up well and a sample taken and allowed to settle so the proportions of particle sizes can be estimated. If you evaporate the water you will generally be able to get the suspendable particles out in a cake which comes loose at the boundary between sizes. The rest should pass through a 200 mesh screen. In any case I would put a box between the chute overflow and distribution sump.The overflow from the box would go into the sump. The sump pump would be flow controlled and pump to the garden or to a settling tank or both. The oversize settlings from the box could be pumped to a box beside the gravel pit and when the gravel is about gone, the oversize could be dumped into the pit and the grinder run on oversize alone until it is used up. A bucket conveyor would carry the gravel to the chute hopper. For all installations big enough to sell dust the conveyor must be automatically controlled. The settling tank should have a conical bottom whose outlet is high enough to unload into a 10 ton lime spreader truck. There must be enough dust in the tank to prevent a water breakthrough when loading. I would put a box on the outside of the tank to absorb the kinetic energy of the incoming stream from the sump pump. Also a control to shut down the entire operation when the settlings have filled the tank. The overflow form the tank should be enough higher than the control to insure a flow-through time of several hours so the water has settled to what appears to be clear water. The



2 SECTION AT 90° TO SHAFT
HALF SCALE


CEMENTED
GRINDING CHAMBER
PERFORATED SHEET OR OTHER STEEL REINFORCEMENT IF REQ'D.
ALL OUTLETS SHOULD BE PROTECTED FROM INCOMING SAND.

(3) SECTION THROUGH CHUTE PARALLEL TO AXIS OF BOX
HALF SCALE



(4) BASIC FLOW DIAGRAM

overflow goes to a recycling box which is kept full by make-up water controlled by a float valve on the water supply line. If for any reason the water level drops, the entire operation should be shut down by a float control. I would use rubber hoses throughout the system so it can be quickly disconnected, drained, and stored through the winter. Gravel pit operations should be housed in buildings heated to 33 degrees F so they can operate throughout the winter to provide the dust to keep the soil remineralization program for forested areas going throughout the year.

Conclusion

The soils have become so demineralized during this interglacial period that forests are dying of malnutrition as well as people and all the other forms of life many of which have become extinct. Simultaneously the climate change, fast moving toward glaciation, is producing drought over larger areas of the low middle and lower latitudes, decreasing the length of growing periods, and producing violent storms of all kinds in the upper and upper middle latitudes. Food production has peaked while uncontrolled population growth has not. Famine must necessarily be added to malnutrition, and death on a massive scale is inevitable. Among the many things which must be done if civilization is to survive, remineralizing the soil is the most important for without that we die no matter what the climate does. There is no alternative.

Many governments are now aware of the fact that the world is in a crisis situation which demands world wide cooperation in an effort to restore the world's capacity to support life. The existence of an efficient, trouble free, farm size grinder demonstrating the practicality of soil remineralization should elicit support form the informed governments. In spite of suppression of the truth by news media owned by the world's wealthy ruling class, the present demand for gravel dust far exceeds supply. Any good machine shop or machinery manufacturing plant that completes the development of this grinder will have a product in a business which must become the world's major industry. That industry will include the well developed materials handing and transport industries and a wide variety of power machinery to meet conditions in all parts of the world. The only thing missing is a practical, low cost grinder. I think the machine described above is what we need. The concept of grinding the hard silicate gravels with gravel virtually eliminates war in the box. Adding to that conception the reverse flow idea through the box form the boot compartment will virtually eliminate wear between the moving parts. A material handling system which eliminates from the recycle water the size particles which could cause wear in the gap completes an efficient grinding process that will not give the opoerator a lot of maintenance problems.

To Whom It May Concern

I do not participate in the efforts of anyone working on the development and sale of grinders. I give advice when asked.

In the spring issue of SR Mark Williams states that he has a problem "...with getting the dust out of the grinding chamber...both Hamaker and I assumed it was...'no problem'".

There is no problem if the footnote on Fig. 1 of the article on the Rocker Box Gravel Grinder of 5-23-88 is observed. I warned Mark about the necessity of keeping the distance between plates less than the width of the plate in the summer of 87 when he came to visit. A picture sent to me of a subsequent prototype showed that he did not take my advice.I am not now, nor have I ever been, associated with Mark's enterprise. I am not responsible for his mistakes.

ATTRA

Appropriate Technology Transfer For Rural Areas networks information on soil remineralization

ATTRA is a technical information service dealing with appropriate agricultural and community source management techniques. Requests can be initiated in writing or by calling the ATTRA toll-free hotline: 1-800-346-9140. The person who answers the phone will ask for general information regarding your request, and you will be referred to the appropriate ATTRA technical specialist. The specialist will conduct data base searches; review literature in the ATTRA Resource Center; contact research agencies and extension specialists; and utilize other networks in order to locate the information that you need. The ATTRA response is generally mailed within 10 working days.

ATTRA has a file on soil remineralization.

ATTRA
Agricenter International
7777 Walnut Grove Road, Box 17,
Memphis, TN 38119

Possibilities For Development of the Wood and Forestry Economy in Germany *that include Remineralization*

This is from a report of an official project proposed by the Research Group / Productivity Development / North-Hesse GHK / HLT; and Edgar Gartner, by order of the Hessean Minister for Economy and Technology in May, 1986, translated by Christian Campe.

Edgar Gartner, has also advocated soil remineralization for forests in a large feature article in the French publication, ***Science et Vie.*** *As a journalist he has helped to greatly increase public awareness of the Waldsterben phenomenon, forest die-off in Europe and especially in France.*

Schwalm-Eder County in North Hesse is especially noteworthy for forestry research because of the potential for developing reforestation on a large scale, especially for the transformation of agricultural land into forests. There is so much overproduction in the agricultural Common Market that about 70% of the agricultural budget of $25 billion is used for the storage of overproduction or for the destruction of it. This has to lead at some point to less intensive agricultural production. The Common market now covers only 40% of its wood requirement; and aside from Japan, the Common Market countries import the most tropical wood, especially from West Africa and Eastern Asia. At the Paris SILVA conference in 1986, the Common Market countries pledged to develop their own forests and reduce the cutting of forests overseas. In order to accomplish this, there needs to be a change of subsidies from the agricultural to the forestry sector.

These are difficult times because of the temporary oversupply of some woods due to the dying of the forests, the phenomenon known as Waldsterben. New ways to use the raw material wood must be explored, and on the one hand it can be used to substitute materials like concrete, steel and aluminum and on the other hand there is the need to replace tropical woods. A good example of a new and superior product is Leimbinder resinous wood construction which is superior to wood and steel, and five times lighter than these materials.

Possibilities for Reforestation

A necessary pre-condition is the reduction of air pollution, but in and of itself will not be enough for the forests to recover, because of damage to and deficiencies in forest soils such as acidification, demineralization, which can only be reversed with special efforts to improve soils with soil amelioration and mulching. In contrast to chemical fertilization, which only leads to more acidification and leaching of soils and to a reduction of the population of microorganisms, amelioration of the soil helps to improve the conditions for microorganisms of all kinds such as mycorrizha, bacteria and algae, etc.

Here it is important to distinguish the differences between the Liebig form of agriculture, where soil is just seen as dirt giving only physical support to the plants and on the other hand a system that sees soil as the primary condition for fertility. Over a long period of time this fertility can only be sustained if the microorganisms are fed by organic and mineral substances.

"...it is important to distinguish between the Liebig form of agriculture, where soil is just seen as dirt giving only physical support to the plants and on the other hand a system that sees soil as the primary condition for fertility. Over a long period of time this fertility can only be sustained if the microorganisms are fed by organic and mineral substances."

To nourish the microorganisms properly it is not enough to give only N P K to the soil, but it has been shown that at least 25 trace elements are necessary for the organic metabolism to be sufficiently supplied. Normally they are found in the upper earth crust, but the leaching that has taken place since the last Ice Age has reduced the availability of these elements for plants. (See Hamaker and Weaver, 1982)

Here the report recommends rock dust in combination with sludge and manure, which are both cheap and abundant are recommended.

These materials are especially suitable for the composting of wood remains and speeding up the composting process. Mulching increases the sponge-like quality of the soil and counters erosion and intensifies soil life. Under normal conditions the rotting of wood takes decades. Tests have shown an increase in the compostation of wood chip with added sludge and lime by a factor of 10, 3 years instead of 30 years. (See Koch 1981)

A mulch sludge also enables the microorganisms to build up amino acids. The carbon stored in wood particles is an important source of nutrients for the soil life. According to a test in Luneburg with mulching and liming, after a year most of the rotting had already taken place, and instead of a monotonous cover, 35 different plants were growing, the soil acidification moved from extremely acid to neutral, and the water retaining capacity increased seven-fold. The microbiological activity had doubled. (See Koch, 1982)

It may also be necessary to add gesteinsmehl (rock dust), as there is evidence that the underlying cause of recent forest damage has a deeper underlying cause, the demineralization of the soil.

The question as to whether gesteinsmehl could replace lime entirely is yet unanswered as the positive results in gardening and agriculture (See Snoek, 1985) may not be transferable to acidified forest soils. (editor: for an alternative view, read the report of engineer George Abermann in *SR* #7, 1987, page 8-9) Ulrich allows this possibility only if large quantities are used, such as 4 tons to an acre. The Austrian company SANVITA holds the view that about 1.2 tons per acre is enough when applied by helicopter. (see Naturland, 1985). The application with a helicopter would make it easy to combine with compostation measures.

It is difficult to calculate exact amounts of lime needed and with wrong application there could result negative side effects. This is no problem with rock dust, as over-application has no negative side effects whatsoever.

Schwalm Eder County has forests of about 130,000 acres. If we calculate 0.8 tons per acre, an amount of 100,000 tons of rock dust will be needed. The cost would be 10 million german marks at a cost of 100 german marks per ton. All of the amount however would not be needed right away, but over a period of five years. After that, the application needs to be repeated. (*editor: this has been calcu-*

lated with incredibly fine rock dust, rather than gravel dust)

For smaller and medium sized forest owners the techniques of application will be dependent on federal subsidies which are tied up to the respective size of the land. One idea is the free lease of blowing equipment for farmers. An alternative is spraying by hand with portable equipment.

The transport would not pose any difficulties as containers formerly used to transport concrete powder could now be used for transporting rock dust.

Necessary Reforestation

The proposal is to reforest 1/10 of what is now used as agricultural land. Agricultural land is not necessarily good land for reforestation. Good soils will quickly be overgrown with a multitude of plants, and the trees that survive the fight against the other plants will grow too quickly which will result in a poor quality of wood. This is very obvious with oaks, which give the best wood on poor soils.

Because of this, some thought should be given to the use of good agricultural land for poplar plantation etc, i.e., short term rotation, to provide the raw material wood for uses where lesser qualities of wood are required, for example, biomass for energy use etc. This is preferred for ecological reasons to just animal crops. Here growth could be speeded up with rock dust, which would ensure profitability.

Reforestation should take place mainly with deciduous trees.

To prepare the soils for planting, mulching and application of rock dust are recommended. On former agricultural land, liming is not necessary.

It is also suggested to create a nursery and a Research and Experimentation Center. Development of products like *Biovin* and their testing could be done there.

3-5 million german marks could be used to buy rock dust and for the amelioration program. Mulching equipment and vehicles to bring out rock dust and lime should be paid for with an extra one time subsidy. Sludge could be provided for free by the sewage plants.

Where Shall We Start?

There will be about 3 years to prepare the reforestation program and to get the project going, then the application of rock dust will take about five years. Then the forest should also benefit from the decrease in pollution in the the mid 1990's.

It is absolutely urgent to build a rock dust plant that can deliver up to 50,000 tons per year. It should be possible to increase the capacity late, for possible use in agriculture.

Remineralization results so far this season from the Love Farm in Harmony, Minnesota

On May 12, 1988 nine tons of gravel dust to an acre was applied along with two tons per acre compost.

Observations for cabbage, brussel sprouts, and broccoli:

The insect damage was twice as bad in the unremineralized area. Two heads formed on broccoli in the remineralized area.

.Observations for string beans:

Rabbits ate 100% of the plants in the dusted area. They ate 50% of the beans in the control area. It is known wild animals are able to sense the healthiest plants.

Observations for onions:

Thicker stems, leaves and bigger onions in the remineralized area.

For potatoes:

They appear leafier, thicker, and darker in the dusted area.

For peppers:

dusted area- 42 leaves, larger plant.

control area- 16 leaves- smaller leaves and plant

Sweet corn:

Dusted area has better germination- leaves are thicker and bigger- no insects

Insects only in the control area

For cucumber, squash, canteloupe, pumpkin:

dusted area has more leaves and growth

For tomatoes:

control area- 2 plants
flowers 33 and 50
tomatoes 7 and 6

dusted area- 2 plants
flowers 43 and 45
tomatoes 10 and 11
the dusted area tomato plants set flowers, and fruit 5-6 days sooner.

The top photo shows a remineralized pepper plant with 40 leaves and the other with 16 leaves from the control area

Robert Love, of the Love Grain Company, producer of organic corn, puts forth a proposal to get a grinder underway-

Robert Love was born and raised on an 130 year old family farm. He graduated from the University of Minnesota in 1962, majoring in agriculture and economics and has been farming for 18 years. He has the ***Love Grain Co.*** *and has been promoting organic agriculture since 1982. He has 200,000 bushels of chemical free corn available for sale.*

I feel lucky to be able to stop production of crops on the farm and spend the year trying to make remineralization a reality.

I have enclosed photos of the work the past few days. The patented mill has been loaned to me by the inventor, Conrad Ruckstall.

The machine was in the back warehouse of his company and I was invited to have a look at it. I quickly collected some gravel, and they temporarily wired the mill. I put in two shovels of gravel and the entire warehouse became dust filled.

It was too dirty inside so I moved the mill to my property where these pictures were taken. He gave me permission to take a few pictures and start working on funding to buy the mill, put a self contained unit together, and make it operational. Conrad manufactures the mill and uses them all over the world.

I planned to run a few hundred tons this spring; however you note by the pictures that the dust is escaping from the collector. I decided to hand shovel in the 14 tons I have here- collect what I can and use it, then decide to build a more complete unit which would involve an "air classifier" to collect all the product coming from the mill. I shovelled in about 8-9 tons and have saved 1500 lbs of dust in the collector which was just hand-put together. The rest blew away in the air, some landing in the field adjacent to my grain elevator. When the wind blows in the proper direction I'll start up again, let the dust blow in the field, remineralizing a small area just to see how the plants respond this summer.

I feel my time will be wasted by not controlling all the discharge from the mill, so would like to make plans to put the entire system together, including semi-trailer mounted with the mill, air classifier, diesel engine 300-400 H. P., conveyor, water-tank, holding tank, basically a self contained unit that can be parked in any field or farm and grind gravel.

I already have the semi-truck and spreader truck and the chemical free land. What I need is the capital to make this operational and put the grinding unit together. The inventor is willing to make appropriate design changes if needed to obtain the proper uniform dust. Once we have collected all the dust, we will know.

My guess on the costs of this project to build a trailer mounted grinder: $75-100,000.

An additional $100-150,000 will be needed for the purpose of gravel hauling, grinding, and spreading on 600 acres of chemical-free land. I do not know the amount of time it will take, so these are estimates only. My only desire is to keep away from bankers and high interest rates which have only ruined American agriculture and farmers.If you are interested in supporting this project please contact me:

Robert Love
Love Grain Company
P.O. Box 238
Harmony, MN 55939
(507) 886-8711 or 937-3445

Leipold study con't

substitute the phosphoric acid in the soil, and is generally a highly life generating element.

A further area was included in the observation planted with spruces in 1965, an area nearby the basalt quarry. Also here, as the soil tests indicate, a positive effect of the basalt rock dust can be seen.

The results showed that rock dust can play a decisive role in the necessary measures to heal forest damage. It is also important to note that there was no washout like with lime, which can lead to a plaster hydration, as in the forest of Essen. Also fertilization with "mineral fertilizers", salt fertilization with a lot of waste materials, is ruled out as basalt rock dust has no waste materials.

Simalith contains 13,5% MgO. The effect rests on the combination of all elements. Fineness of the material is a decisive factor. One kilo (2.2 lb) has a surface area of 3500 square meters. With 15 kilos, 52,500 square meters of ground is covered with active clay crystals. (150 lb to the acre)

The Leipold study is available with the research packet being made available through *SR.* It is called *The Effects of Basalt-Dust Emissons on Spruce Trees at the Basalt Quarry Albert at the Huhnerberg in Comparison to Spruce Trees Situated Outside the Range of Emissions* by Fritz Leipold, Dipl Ing. 15 photographs, a map of the region and other documentation accompany the study.

Gravel means growth

Advance Notice

The above title is from a major English newspaper **The Guardian** and their column **Guardian Tomorrows**, which appeared in the March 30, 1988 issue. "More innovatory ideas and projects selected by Nicholas Albery, chairman of the Institute for Social Inventions." It begins, "Gravel dust, often available free from silt ponds at gravel pits, and rich in minerals and trace elements, should be added to your garden. So says the Soil Remineralization movement, most active to date in Austria, Germany, and the U.S."

It goes on to tell the story of Robert Schindele and mentions *TSOC*, Don Weaver's Solar or Ice Age? Bulletin and the *SR* newsletter. It goes on to say:

"On Lanzarote in the Canary Islands, vines have flourished in soil rich in volcanic rock. And now in the U.K., experiments at Springhill Farm near Aylesbury, in conjunction with the Department of Chemistry at Surrey University, are getting interesting results from wheat grown in soil to which granite dust from a nearby quarry has been added."

Through the institute, Nicholas Albery is making available an information/source list on remineralization. Contact:

The Institute For Social Inventions
24 Abercorn Place
London NW8 9XP
England
telephone: 01-229 7253

A Modest Proposal

by Bertram Cohen

Those people most concerned with health, environment, ecology, climate, and related isues have been trying to alert society by advocacy methods. The presumption being that information would produce awareness and appropriate action would surely follow.

Even without a climate crisis there are other severe societal problems that are fast approaching crisis levels.

I feel the time has now come for "concerned" people to form a self-help network. I propose that an alternative infrastructure be built based on a network of ecology centers. It could start simply with an alternative organic food supply and gradually introduce more products and services in a retailing mode.

Each center creates a presence in the general community, offering something to everybody from the least aware to the most involved. The ecology centers have great flexibility because they are not rigidly tied to a fixed product or sevice. They are free to grow and adapt within the limits of what is natural and wholesome. Over time they could develop a growing assortment of organic produce from an expanding network of organic growers, a food service, products such as gravel dust, pyramid gardening, Blue-green algae, sprouters, juicers, distillers, ionizers, full spectrum lighting, solar equipment, greenhouses and other wholesome items.

Alternative sources could be created for insurance and banking to expand wholesome alternative enterprises. There could be a membership and newsletter, educational materials could be provided, courses and seminars, Health Research Communities, Vocational Re-training which enables a career change to the alternative economy., a referral service for holistic therapies, alternative business people, and other alternative organizations and resources and many other possibilities.

If you are interested in such an undertaking please contact :

Bertram Cohen
63 Whittier Blvd.
Poughkeepsie, NY 12603
(914) 454 3421

The Climate Crisis and Human Survival
by Bertram Cohen

— Good introduction and summary document of the climate crisis
— Contains many excellent questions to be posed to government officials

Available For $5.00 ppd. From

SOCIETY FOR AN EXTENDED ETHIC, INC.
1139 Woodside Trail
Troy, Michigan 48098

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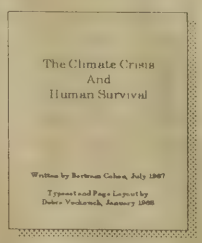


CRUSHING ACTION in the U.K.

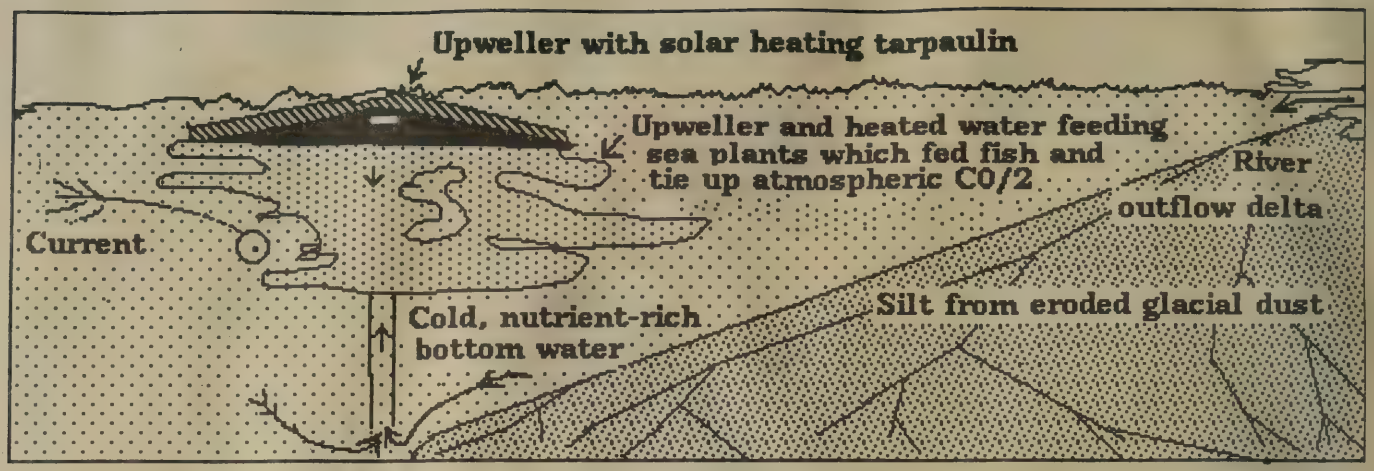
I have to thank Harry Alderslade. Harry did the preparatory work of sending info to the Centre for Alternative Technology in Wales, a community where sun and wind energy are on display to the public along a walk through trail with explanatory diagrams and cartoons in an old slate quarry.

So when I happened by there I found the willing and interested ears of Peter Harper, who published a catalog about innovations. A smithy was then my haunt to puzzle together the first "pound for pound honesty machine" to whack some sea shore gravel I fetched, to dust. The "mortar" was rather tall and sounded like a church bell at every heave of the pestle.

I now sport a model that looks much like a pressure-cooker along with 8 foot rod, just 10 dollars worth of scrap metal and welding and behold your african grain pounder-like hand tool, all set for the rites of solidarity. A bucket full at the end of a muscle toning day lets anybody's aggression out constructively as you can put the bucket full of freshly "killed" rock to life, organically speaking. Spread around your favorite tree it will drop more blessings into your lap than any day spent at the gym.

Springhill Farm in Aylesbury Bucks is an old large organic farm converted into a cancer day-care center which works with the University of Surrey doctor: Neil Ward, who will let his students analyze some winter wheat I sowed on two differently dusted soils (poor and same with compost, being old scrapes from a barnyard). The 8 different dusts used included granites, gravel deposits from the Thames river and basalts as found near the Wooky farm in Wilts, which is one of the biggest organic growers in the country. The analyses will be done on a fancy full spectrum machine. It is a huge machine and costs 500 pounds a day to run.

Piet Bouter


Upweller with solar heating tarpaulin
Upweller and heated water feeding sea plants which fed fish and tie up atmospheric C0/2
River outflow delta
Current
Cold, nutrient-rich bottom water
Silt from eroded glacial dust

Remineralizing Upwellers

Artificial upwellers could remineralize the earth's oceans quickly, and increase nearby fish harvests while generating profits for investors.

The ocean is about two thirds of the earth's surface. The minerals eroding from the land during these interglacial times settle to the sea floor as silt and mud. Remineralizing the ocean's surface waters with them will allow a lot of atmospheric carbon to be rapidly bound up by the ocean surface biota.

An upweller would raise nutrient-rich ocean bottom water to the suface as an O.T.E.C. does.

An O.T.E.C. (Ocean Thermal Energy Converter) pulls cold ocean bottom water to the surface and concentrates energy (usually from electricity) from the heat difference between that cold bottom water and the hot surface water.

An upweller could be powered by an integral O.T.E.C., by a "windmill", or by a wave- or groundswell-power, depending on the site's characteristics.

The upweller mechanism could be a massive compressed air bubbler, with or without a containing tube, a bottom pump pressurizing a fabric-type tube, or an enormous fabric suspended to behave like a windward shore, held in place by large buoys and anchors, using the prevailing winds to lift the bottom water.

Natural upwellings feed the earth's richest fishing grounds.

Cold, bottom waters are rich in nutrients, Where it naturally upwells are the earth's most productive fishing grounds, like the Georges Banks and off the coast of Peru, because the nutrients in the upwelled water feed the plankton that grow in the sunlight near the ocean surface.

Most of the ocean's plant life lives in the upper couple of meters, where the sunlight is. Cold bottom water, even mixed with hot surface water or warmed by an O.T.E.C., would be cooler than surface water and would sink away from the sunlight, unless it was warmed.

An upweller would also warm the raised bottom water so it won't sink and can continue to feed plankton.

The upwelled water would be held to the sunny surface by a huge dark floating tarpalin, to be warmed by the sun and seeded with marketable sea plant life which would thrive with the lack of competition, the sunlight and the nutrient-rich water.

In some areas, an upweller raising bottom water could bring up loads of rich river delta silt and mud, remineralizing the sea to nourish more biota.

The best place for such an upweller would be:

1) on the mud near the mouth of a major river that has been less polluted.
2) where there's cold, rich bottom water and hot surface water.
3) where a surface current would:
 a) carry the nutrient-rich water through brightly sunny regions to heavily-fished areas.
 b) keep the nutrient-rich water in tropical sun for a long time.
4) where winds would carry the air cooled by the upwelled water to an area that would benefit (desert?)

The areas suited to O.T.E.C.s which are upstream of both sunny tropical regions and of heavily fished areas and above undersea dèltas of rivers are best for remineralizing upwellers. These seem to be off the Brazilian coast near the Amazon and off the African coast by the Congo river, and perhaps off the Ecuadorian coast. *

A small demonstration upweller could be near a small river to turn a bay's water over. In such a contained place, eutrophication (using up the water's oxygen) may be a problem, and the bubbler approach might thus work better.*

* pg. 79, *GAIA: An Atlas of Planetary Management*, Dr. Norman Mmyers, Gen. Ed., Anchor Press/ Doubleday, 1984

I'll coordinate further study and research of remineralization using upwellers if you'll let me know what you think of this and what you're doing that's related.

Brian Cady
Tripple Brook Farm
37 Middle Rd
Southampton, MA 01073

"It is super-heated water carrying the minerals which reaches the surface. Water and minerals come from the zone between the bottom of the continent and the incoming ocean floor. We cannot approach the amount of energy which escapes from the continental heaters at that inter face." **John Hamaker**

"Perhaps upwelling experiments could be tried in a river delta environment and monitored for all observable changes." **Don Weaver**

Letters and Forum

John Hamaker recommends Clodbuster

I worked 2 1/2 tons (1/4 acre) of a product called *Clodbuster* into our garden soil this spring. It is a natural glacial gravel dust with a good deal of carbon compound in it which I take to be dehydrated cell walls and possible whole microorganisms. We have not had a real rain for about 5 weeks. I made furrows just deep enough to get under the dried crust and down into the still moist soil. We put the weak looking transplants down about 2" below the ground level, filled the trench with water and covered with the dry topsoil removed from the furrow. In about 10 days the weak transplants changed appearance completely. They are now sturdy healthy plants. Because of the dry soil they are growing slowly; but I know from what I've seen that the only thing that could keep us from getting some really good food is drought.

On the 21 and 22 of May we got almost 3 " of gentle rain. The top soil is saturated. The cabbages seemed to double their growth overnight, seeds in the dry soil became active, and the blossoms on 8" tomato plants don't look so silly anymore. The cost of shipment of the *Clodbuster* is painful to say the least. However if truly nutritious food can prevent a trip to the hospital then *Clodbuster* is cheap.

Readers might look into *Clodbuster* as a source for minerals. They have a successful business going with farmers across the country. For people who are as desperate for good food as we are its worth the price. It's doing for the plants what our garden in Michigan did- boy is the food good. I wouldn't pay any attention to their recommendations. Clodbuster is ground glacial gravel which terminology they do not use. They call it a humus because it has a small percentage by weight of carbonaceous material. I call it cell walls and perhaps whole organisms. Write to: Leland Taylor, 701 Madison St N.E., Albuquerque, NM 87110.

The *Clodbuster* may add a few years to the lives of Anita and John but the whole world is dependent on the development of a booming gravel grinder industry.

John D. Hamaker
Seymour, Missouri

International News

Thank you for the documentation now that, for the first time, we have enough information in Spanish...I believe that it is possible to edit a booklet in Spanish that would serve to inform on the issue. To begin with I intend to read tranquilly all the documentation that you have sent and put together the booklet. *(editor: the material was translated into Spanish by Hamaker Coordinator Edmundo Kandler of Costa Rica)*

I insist that our organization is very interested in being a delegation of your association in Spain. Also it would be very interesting if we could manufacture the grinders in Spain as there exists an important movement for the recuperation of forests and we could promote your system. The truth is, if we haven't done it already it is because we feel abandoned and don't wish to take the initiative without stepping on firm ground. If you come to Spain please do contact us.

Manuel Valero
Delegate for Correspondence
Accion Ecologista Social
Madrid, Spain

editor: It is really exciting to have this organization support us with networking activities in Spain. The AES networks to all the main ecological organizations in the rest of the country. It is hoped it will be possible to visit them in the near future and assist them in their stated aims.

Thank you ever so much for your registered mail and letter dated April 5th I received on April 10th. I was out on the field. The information I gathered from the newsletters has been most invaluable.

Your practical advice even more so. I am now working at the following:

1. Networking to promote the idea.
2. Collecting samples at various places of Nepal.
3. Pot testing for vegetables.
4. We have a small but efficiently managed Agricultural Tools Research wing under a huge Russian made Agri-Tools Factory. I know the General Manager well. I have spoken with him regarding the funding of manufacturing a mini prototype here. He feels he would need some data detail blue-print back ups.
5. We have grinders called crushers here in Nepal-crushing stones. I will definitely start grinding some sample gravels for test.

I was at the Nepal, Tibet boundary in late 1950's. So have seen some huge vegetables grown in Tibet by the Chinese after their arrival. Also in the Himalayan side of Nepal we grow abnormally big sized vegetables. I thought it was the ultraviolet rays in those regions. But now??? I will write them all.

A 5 to 6 kg Cauliflower (Kathmandu local) is normal here. 8 to 10 kg and even 15 kg ones are known.

Kathmandu has a black soil called"Walimate" 30 to 50 inches deep. It was traditionally used until the invasion of chemical fertilisers a few decades back. So I intend to write more later.

Major General Aditya S.J.B. Rana
A.D.C. To His Majesty The King
Babar Mahal Villa
Kathmandu, Nepal

We have sent a sample of 30 kilograms of mixed rock dust to you. This mixture contains diabas, basalt, clay, dolomite, Schindele's dust and, most important of all, gypsum. This mixture is excellent for fighting electro-stress and radioactivity, especially if you apply a little Biovin-Complex (biovin plus dilutions of biovin) before application of the rock dust mixture. If the soil is not too badly undernourished, you should not apply more than homeopathic quantities (one spoon for one tree). If you pour the biovin-complex into rivers, lakes etc., the information will go right up and down the landscape. We send a bottle of the biovin-complex under separate cover.

The mixed rock will cost 2.70 Austrian shillings per kilogram. You may also get the mixed rock dust plus solid biovin, enriched by dilution of biovin. This material seems to be a "bomb" for trees, vegetables, vinyards (especially), parks etc. Price: Transport costs will have to be added to the above prices.

The forests have recovered so dramatically in our country that people say: this is the loveliest spring we have ever seen. There are almost no sickly looking trees. You see dead trees, trees under stress by electricity, and other emissions, and vital looking trees. The sickly over-all picture of last year has completely vanished. Measurements in the Danube show the river measures number 2 on the quality scale (1 is very good).

This goes for Austria where we have been working now for three quarters of a year: by way of water-information.

This does not go for Italy which was influenced a little by the Mediterranean and has just started to unblock after our work on the north Italian lakes before Easter. I have been to Rome some weeks ago and I was shocked by the dying trees...

...Please take care not use the rock dust mixtures sent without controlling them by dowsing.

Some more news: oaks seem to use mistletoe to "catch" certain waves. Oaks seem to be specialists with electrostress, the mistletoe seems to be a specialist for radioactivity. As you may know the mistletoe is used as a remedy against cancer.

We are interested in any news concerning you country: weather, special occurrences, research...

Maria Felsenreich
Ganserndorf-Sud, Austria

A Global Program

The last issue of *SR* was the best- so far there is a movement of energy, of consciousness moving towards "critical mass" on this issue- still there seems to be too much effort and not enough effectiveness.

"What matters is unity of action in support of a comprehensive program which has the potential of insuring the survival of civilization."

During the past 18 months I have been seeing the beginnings of this comprehensive program take shape. Perhaps it is time to establish our program's specific agenda. I think so.

We need a Global Congress, a central hub, a Committee of Correspondence and training manuals for ordinary citizens in order to become effective earth stewards immediately.

There are a lot of anxious people out here just waiting to be told what to do- from a compassionate, correctly informed authority.

We must provide this step-by step information-

Russell Mariani
Conway, New Hampshire

editor: The Provisional World Parliament came up with an agenda on this issue at their Third Session in Miami Beach, Florida June 18-28, 1987. It is World Legislative Bill Number Six, the Emergency Earth Rescue Administration. For more information write to: Phillip Isely, World Constitution and Parliament Association, 1480 Hoyt St., Suite 31, Lakewood, CO 80215, (303) 233-3548. Some readers may prefer decentralized, bioregional community efforts. In the last issue Greg Watson put forth a global program with a bioregional emphasis. Alden Bryant of the ERS has also proposed global, national and regional scale programs emphasizing full employment, with the funds transferred from defense to a regeneration program. Funds from the ***Live Earth, A Broadcast for Our Common Future*** *could be directed towards these or similar programs.*

Other Ways to Remineralize?

The ag and chem companies failed to consider Louis Kervran's research on biological transmutation. I agree. Consider for a moment that if we deepen our understanding of how elements are transmuted we would stand in the position of being able to trigger a rapid and sizable transmutation of acres of soil at a time without grinding and transporting tons of rock powder all over the planet.

I write at this time to alert you to the fact that this has already been achieved and that it can be duplicated by others. The case in point is that work done by a woman from Jeffersonton, VA, named Machaelle Small Wright. (For a thrilling report of her work, please review a recently published article in the October 87 issue of Acres USA.) Her book, *The Perelandra Garden Workbook,* documents the 13 year intensive research into the possibilities for abundance through conscious interaction with the "angelic" realms of nature.

"By working with the devas and nature spirits, you can bypass the normal sequential healing time and etherically shift the necessary nutrients into the land in question."

"In short, by using the expertise of the nature spirits, you can infuse thirty tons of greensand (or gravel dust-) over one square mile area to a depth of five feet and it all starts with a teaspoon of greensand in your hand."

It's clear to me that she has tapped into the source for the remarkable processes that Kevran observed. In conclusion, the healing of the planet does not depend on methods, but rather a deepening of our own personal relationship with the Earth in all of its aspects, physical and spiritual, matter and energy, visible and invisible.

The other reason is to announce the founding of *Garden of the Heart: Center of Inspired Living.* In the course of the garden work that I do, personally and with others, I will be emphasizing the principles of remineralization. Even Machaelle recognizes the value of this approach and does not recommend the Balancing Process in place of supplying nutrients to her garden, but where tremendous volumes are required, the Process is of profoundly effective and immediate benefit to vast acreages of forest and public lands.

Keith Johnson
Lancaster, New Hampshire
See Network Listing

I gave to a friend of mine your literature to read. She says if someone you know wanted to, she would give a long lease on a lot with a few citrus trees to experiment on- no charge.

The sources of fine dust in this part of Florida are purely limestone, I doubt their value. Do you know if there is a source in Georgia? I'm sure there be all kinds of rocks there.

I intend to learn all I can about what you are doing. Can use advice. Thank you.I wish to move rapidly, not much time left, I'm 88. I wish to help Mother Earth as much as I can.

Theodore C. Larson, Researcher of
Lost Mines and Hidden Treasures
Englewood, Florida

I'd like to have a copy of your newsletter as well as information and updating on reforestation and remineralization. I own an orchard and I do practice remineralization as well as organic growing of fruit trees. I am absolutely convinced that trees operate on the same nutritional basis as any other human- without a good source of nourishment: dies- The ground also needs the roughage of its biological composition in order to sustain life properly.

I have been trying to penetrate the government's bureaucracy to see if anyone could listen regarding these matters but, as far as I have been it is the receptionist. Apparently, no one listens. They are incapable of recognizing anything of value.

Understanding nature as I do I have arrived to the conclusion that if we are to continue to stay on this planet measures are to be taken immediately in order to preserve it. Nature will not be willing to support us any longer under these conditons of living. We are not in tune.

Rafael M. De Leon
Los Angeles, California

My order to Mark Williams in Feb 1988 is not filled and your newsletter explained why. .. I wish he could say "which" orders are being filled and how many months are back

logged. It seems he has not cashed my check either.

Rock dust was being received and re-sold in this area in past years until freight charges became abusive. People who checked locally- said the dust produced from this central Florida area is not balanced or of any quality.

Have you heard of these Nitron-35 products that favor natural products? Could you comment in the next issue.

H. C. Leagh
Silver Springs, Florida

editor: I have not had an opportunity to look into these products. If any readers are familiar with them, please send your comments.

I have been trying out the vinegar-mineral combination, and it seems to be working. After a few days of it I underwent a spasm of energy such that I cleaned up my apartment to the point of startling regular visitors!

Glenn Wiprud
Seattle, WA 98125

Just received and read the Spring '88 issue. Excellent! Seems that some influential folks are looking beyond politics and are jumping on the bandwagon. It restores some faith in me regarding the character of those who aspire to represent we the people.

However, I feel the articles dealing with Health and Nutrition should best be left to other magazines. Though I'm certain the Summers' had the best of intentions with their folk medicine, various holes show through in their methods:

Nature has decreed that humankind must eat foods that suit our biological make-up. These foods constitute our dietetic character. Every animal has its own, unique dietetic character. Go ahead and ask the next horse or cow you see. It'll tell you that plants, especially grasses, are all it needs. That's it! And how does that horse or cow know to eat grass and not frogs, sticks, squirels or rocks? It relies on its senses- taste, sight, smell, etc. to guide it.

And so it is with mankind. To figure out your dietetic character, pick out a food you're about to eat and put it to this test: in its RAW state, does this food appeal to my sense of taste; touch; sight; smell? That is it!

Does vinegar pass the test: Smells pretty bad to me. How about rock dust? Tastes pretty bad to me. So how are we going to get our minerals: From foods that meet our dietetic character, namely fruits and a small selection of nuts, seeds and vegetables. These plants are able to change raw minerals into complex colloidal forms, as well as create enzymes that animal life can appropriate. Humans cannot use raw minerals. Otherwise we could eat nails, chalk, bones and drink seawater directly. *Trust* your body to determine good foods.

Any questions or further inquiry can be sent to me directly. Thanks for letting me sound off and Y'all keep crushin"!

Bob Sniadach
Boynton Beach, Florida

editor: Being interested in nutritional therapies from a comparative standpoint (like comparative religion), it is clear there are many systems and philosophies on which theories of nutrition and healing are based. Some are thousands of years old or more recent from Chinese Herbal Medicine to Native American herbal systems, Ayurvedics, Natural Hygiene to Macrobiotics, Homeopathy and many more.

I have a similar interest in agriculture. For example, biodynamic farming uses rock dust in small, almost homeopathic amounts. It would be very interesting to take some biodynamically grown vegetables and do a mineral analysis to see how they compared with remineralized vegetables. Also to make comparisons of soil fertility, healthy microorganisms, etc. A thesis for a student, perhaps.

The honey vinegar mixture was advocated by Dr. Jarvis and is a New England Folk remedy. I have worked with it many times over the years. It is very high in potassium and trace elements and stimulates the production of hydrocloric acid needed for digestion. As we get older our production of hydrocloric acid decreases and among other things causes hair to grey. It seems to be very beneficial in balancing the Ph of the digestive tract and promotes emotional well being. A fascinating story in this regard is that of a teacher at a public school in Salt Lake City. She was given all the "tough-to-deal-with kids" in the school for her class! She had the idea to give them the honey vinegar drink every day. She called it "french lemonade" for the children. This class in a fairly short time actually became one of the most well behaved and attentive classes in the school. Then some of the parents began to hear of this 'strange drink' which the children liked and disapproved. The administration asked her to please stop giving it to the children. Within a very short time, the kids returned to being very unruly again. It is anecdotal and I cannot say that this proves the value of this drink, but my experience with it has also been very positive. It is sometimes advocated by wholistic health practictioners. The vinegar is from apple cider aged in wood, a bioregional staple, perhaps akin to kefir, a fermented culture, rather like yogurt, commonly drunk in the Causasus (available in health food stores here) and reputed to contribute to the longevity of people there. I certainly do not wish to recommend it to anyone who doubts its value, but my own experience with honey and vinegar opens me up to the possibility of honey and vinegar with rock dust as possibly being of considerable nutritional value that is worthwhile sharing with readers.

On the question of what is 'natural' and 'tastes good' as a guide, this may not always be so easy to determine or assume. In an extraordinary book ***The Tree of Knowledge*** *written by two Chilean biologists, Humberto Maturana and Francisco Varela on cognition, they mention the unusual case of two Hindu girls who were rescued (or snatched) in 1922 from a family of wolves with which they lived and had been reared in the north of India, in complete isolation from all human contact. "At the time they were found, the girls did not know how to walk on two feet. They moved about rapidly on all fours. Of course, they did not speak and had inexpressive faces. They wanted only raw meat and exhibited nocturnal habits... At the time they were found, they were in perfect health and showed no signs of mental retardation or malnutrition." It seems there is a lot of conditioning in culture which determines our view of what is 'natural', tastes good and so on. Even that which determines our 'human' behavior. To an Eskimo, blubber tastes very good and one European explorer in those regions wrote that changing his diet to the eskimo diet of un-fresh (decomposing) raw fish while there tranformed his health. And yet that doesn't mean there aren't very good reasons for advocating vegetarianism.*

I can understand that there are many people who find it preferable to get their minerals from plants. But many in the network have had positive experiences with taking rock dust internally worth reporting including John Hamaker and Robert Schindele and those who are buying it in the many pharmacies where it is marketed in Europe. A Russian Institute in the Ukraine and The University of Vienna has determined it is useful in breaking down the high oscillation rate of radioactive particles in the body as reported in SR #7.

The Network

Subscribers are invited to join the listing, so please let us know so we can include you. Listed in one issue each year, each subscriber receives all the issues of the year.

Grace and Fletcher Blanchard
P.O. Box 668
Northville, NY 12134
(518) 863-6289

Joel Carlinsky
P.O. Box 86
Pond Rd, Hawley, MA 01399
Interested in using the cloudbuster invented by Wilhelm Reich to work on climate problems. If interested please contact me.

Deddie Dise
P.O. Box 3012 H.S.
Ruidoso, NM 88345
(505)257-2890
The village Midwives "come in with love" Full Service Birthing Center and Home Births. (257-2890 or 257-2723)

Al Lopez& C. Finkelstein
2613 Spencer Rd.
Chevy Chase, MD 20815
(301)588-6437

Louis Finocchorio
7213 W 60th St.
Overland Park,KA66202
(913)362-7439
Am using river silt from Kansas River. Interested in meeting others in the area.

Walter Fridal
130 North 200 East
Tremonton, UT 84337
(801) 257-5667
Farmer in northern Utah willing to experiment.

Peter Fung Lee Fung
1 Hacienda Court Fairways Maraval,
Port of Spain, Trinidad
West Indies

Evangelyn D. Johnson
RD 2 Box 890
Bristol, VT 05443
(802) 453-2534

Keith Johnson
Garden of the Heart: Center for Inspired Living
RFD 2, P.O. Box 104
Lancaster, NH 13584
(603)788-3122
Garden of the Heart exists for the purpose of restoring to humans the joy of living in cooperative, co-creative partnership with Nature, through understanding and attunement with Nature's laws. Garden of the Heart workshops will be 15$ to 45$ per day depending upon ability to pay. They are all for the most part portable and can be brought to gardens all over New England. Write or call for info on seminars, classes based on work of Michaelle Small Wright and the Perelandra Garden- includes SR. A 3$ donation will provide up-to-date notification of schedules and events for a period of one year.

W.L. Habertier
1504 Galena apt. #102
Aurora, CO 80010
(303)343-4560 weekday
(719)775-9722 weekend
Has anyone ionized rock dust before application? Has anyone knowledge of ionization process?

Shirley- Anne Hardy
The Rocks
Pitlochry
Perthshire PH16 5QZ
Scotland
Interested in Horticulture, Permaculture, Land Rent Reform, Herbs, Healing and the wider ripples from these. Send for "Goliath's Unmasked" (via Dr. G.T. Wrench and Henry George-5 page paper, postage only asked.)

Andrew Kozlowski
54 Canadian Avenue
London SE6 3BP
England

Theo Larson
740 Harvey Street
Englewood, FL 34223
I firmly believe Planet Earth is in serious trouble. I intend to help.

Judith L Lashley-Roberts
3611 35th St. West
Bradenton, FL 34205
Rick and I have had an organic garden-replacing our backyard- for the past four years. Each year it becomes more fertile as we add fresh compost. The garden pests are taken care of by natural predators and organic pesticides.

Charles de Matas
414 S. Craig St, Suite 114
Pittsburg, PA 15213
(412)624-1276
or 621-5883
Would like to gain as much knowledge as I could and if possible practical experience while in the U.S. Will eventually return to my native country, Trinidad, to experiment with SR in the tropics.

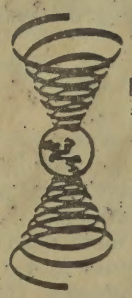
Nicola
Sustainable Productive Ecosystems Course
Cl-Special Programmes Christchurch Polytechnic,
67694 Christchurch
Madras St Christchurch,
New Zealand

Peter Seiler
Peaceful Alternatives
209 Guilford College Rd.
Greensboro, NC 27409
Peaceful Alternatives is published every 1-3 months. A 12 issue subscription is $12.00 minimum. The goal is to spread a message of peace and healing. Distribution list of healthful products. We need to find a local source of rock dust to get into the business of soil remineralization.

Deborah Solheim
2145 N. Booth Street
Milwaukee, WI 53212
tel. (414) 263-1615

Vicki Tinnon
206 Verde Vista
Thousand Oaks, CA 91360
I am interested in organic and mineralized produce for my family of 7. We are Natural Hygienists and would like to hear from other families with young children.

VORTEXIAN MECHANICS



We explore the Background Mechanics of Creation in "CAUSES" Newsletter and address the application of these principles in the Real World of Technology, Agriculture and Your Daily Life. Free info: P.O. BOX 3110-HH ; Laredo, TX 78044

Corrections for SR #9

Remineralization Time

Farewell various jobs of all types and all sorts,
not conducive to the biosphere, judged in nature's courts.

Just making money alone, isn't my thing, and never was
I'd rather have health and Love, "Did you hear that, 'cous'?"

Often having another agenda in mind,
From the peanut gallery would wail,"Hey man,
tote that bar; what are you one of the weird kind?

Bye bye conventional industry, I'll sing my retirement song,
Alas, I'm called for duty; I've neglected my Earthly Mother
for far too long.

She bore, nursed, and nurtured me, and she has grown weak,
I must come to her aid, and that's all I can speak.

Brothers and Sisters, I'm calling you,
But you're only true Brothers and Sisters,
If you'll help Mother too.

Let's cleave together... A true family,
Heaven calls to Earth so clear...can't you see?

For us to be healthy, the Earth must be healthy too,
What you do to the Earthly Mother,
the same will become of you.

So long have I waited for the chance to be free,
This time, no not this time, will I miss this opportunity.

Ron Kastle
Rosedale, New York

Andrew E. Rothovius writes as a journalist for **The Peterborough Transcript,** which is a weekly paper, not a daily.

Steven McFadden writes a column for **The Monadnock Ledger** often covering remineralization, weather and related issues published in Peterborough, NH.

1988 Subscriptions

It continues to be more practical to ask subscribers to renew at the new year and make sure each new subscriber receives all the copies of the year. You may have a complimentary copy and then find it is part of your subscription. The 3-4 copies each year will include all those who wish to be in the network listing and *How To* articles do not need to be repeated in every issue.

Rather than a commercial newsletter, it is a community grass roots network that stretches to every continent. Writing is contributed by the editor and others of the network. Single copies are available for $3.00. A U.S. subscriber is helping to subsidize the cost of an outside the U.S. subscription which can cost as much as $1.50-12.00 to mail. That explains why there is little price difference between subscriptions inside and outside the U.S.

The aim is to network around the world where remineralization can offer ecological self sufficiency in place of dependency on unhealthy chemicals, pesticides and herbicides. Remineralization needs to take place worldwide.

Printing a newsletter with a small circulation is relatively expensive per issue. If you feel you cannot pay $12 (U.S) or $15 (outside the U.S.), contact *SR*. This newsletter, as much as possible, is available to all those who would like to receive it. If you wish to exchange publications or some other exchange/request for a subscription, please write *SR*..

It is a goal to have the newsletter be financially self sufficient. It is hoped it will be possible to produce 4 issues this year. It depends in part on the budget and volunteer help.

Thank you, readers, for your contributions: results of remineralization, photos, articles, experiences, and initiatives on a local or larger scale, be they commercial or cooperative- *SR* is the reflection of all of you out there!

Subscriptions 1988

I would like to receive *Soil Remineralization, A Network Newsletter.* I enclose a check (made out to Soil Remineralization) for $12.00 in the U.S. or U.S.$15.00 (outside the U.S.), for a 1988 subscription (3-4 issues). Single copies are also available on request. Send to *SR,* 152 South Street, Northampton, MA 01060.

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Would you like to be part of The Network Listing? Yes ____ **No** ____

A brief description:

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UNITE TO LIVE
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A NETWORK NEWSLETTER
Joanna Campe
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